

# AGRICULTURAL EXTENSION SERVICE

UNIVERSITY OF MINNESOTA

## AGRICULTURAL ECONOMICS

FACT SHEET No. 28-1981

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The following crop budgets are based on normal weather and growing conditions. The prices and crop inputs specified are for the season ahead and were estimated by formula and/or survey. The indicated yields typify what a commercial producer might expect with normal weather conditions. These budgets should be adjusted as necessary to fit specific farm situations in each area as more information is gathered throughout the growing and marketing seasons.

**Total Returns or Crop Value:** Both price and yield expectations are subject to change as the growing season approaches. Variations in either projected price or yield expectations will affect projected returns.

Quantities produced assume timely planting and harvesting. Prices used in the budgets are estimates of out-of-the-field harvest prices. These budgets should be viewed as production budgets, the decision of when to market differing from the decision of what to grow.

**Cash Expense Per Acre:** Cash expenses are those costs associated specifically with the crop being considered and are incurred only with the production of that crop.

Costs indicated in the budgets are based on recommended practices for a good producer. Adjustments to individual farm conditions may be necessary with varying fertility situations, chemical use, and planting practices.

Cash costs estimate the out-of-pocket cash operating expenses and include estimates for fuel, oil, repairs, fertilizer, seed, chemicals, and land taxes. These costs are basic to any analysis of short-term adjustments to increase profitability.

**Land and Other Overhead Costs:** The actual 1981 cash cost of land will vary greatly among individual operators due to varying land rental arrangements and land finance structures.

The land values used in the budgets are based on recent relationships between land prices and cash rents in Minnesota. The ratio of rent to current land value is estimated between 3.5 and 4.5 percent. Such a ratio for cropland suggests that land renting for \$45 per acre would sell for \$1,000 to \$1,285 per acre, and land renting for \$120 per acre would sell for \$2,667 to \$3,430 per acre.

Average land taxes are estimated at .5 percent of the current market value of land. Thus, if the 3.5 percent ratio is used, the net return for land is 3 percent of current market value. The land tax estimates are included in the cash expense category, and the net return to land is included as the overhead cost (called "land charge"). Labor is considered an overhead cost in the production process.

**Crop Risk (Insurance):** Crop risk can be viewed as either the actual cost of carrying crop insurance or the discount in ex-

## What to Grow in 1981- Crop Budgets for Soil Area 7

pected returns necessary to make comparisons between insured and uninsured crops. In these budgets, crop risk can be considered as an average discount in the expected returns.

**Total Costs:** The total costs indicated are all costs, cash and overhead, required to plant, produce, harvest, and haul the crop to storage or market.

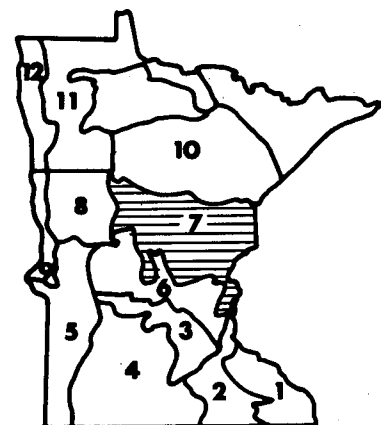
Returns over total costs are the total returns minus cash costs, land, machinery, labor, and other specific costs as listed in the budget and do not include additional farm overhead charges.

**Return Over Cash Costs:** In a given year, most growers want the highest return over cash costs that provides safety in maintaining their cash flow or liquidity position. Returns over cash costs are used to pay other costs such as land rental or purchase payments, machinery payments, hired labor, and family living expenses.

If credit is limiting, a grower may need to consider crops with lower cash cost requirements and crops that have a high degree of assurance of enough cash return to cover the cash expense incurred. Estimates are given in the line "returns over cash costs" and include the value over cash costs of attaining the listed returns, a 20 percent reduction in returns, and a 50 percent reduction in returns.

As the cropping season approaches, the available moisture, labor, machine capacity, and past cropping history must be taken as given. Diversification may be necessary for some growers to decrease risk and get the highest return in the face of their particular set of givens.

**Long-Run Considerations:** The crops showing the greatest return over cash expenses in a given year may or may not be the most profitable in the long-run because of disease and pest build-up risks and in soil erosion considerations associated with one sequence of crops versus another. There may be situations where long-term profitability may not necessarily be the same as that associated with providing the best cash flow position for a given set of resources.



ENTERPRISE BUDGET SOIL AREA 7	CORN GRAIN	SOYBEANS BUDGET	WHEAT BUDGET HARD SPRING	CORN SILAGE FEED	ALFALFA ESTABLISH WITH OATS	ALFALFA HAY FULL PRODUCTION	COOL SEASON GRASS ESTABLISH	COOL SEASON GRASS FULL PRODN.
CODE NUMBER	3	6	1	5	11	10	12	13
RETURNS / ACRE								
YIELD / ACRE	80.00 BU.	27.00 BU.	30.00 BU.	13.30 TON	50.00 BU.	3.50 TON	50.00 BU.	3.50 TON
PRICE / UNIT	2.85	6.85	4.75	19.95	1.80	45.00	1.80	40.00
SECOND PRODUCT YIELD	-	-	-	-	1.00 TON	-	1.00 TON	-
SECOND PRODUCT PRICE/UNIT	-	-	-	-	35.00	-	35.00	-
TOTAL RETURNS	228.00	184.95	142.50	265.34	125.00	157.50	125.00	140.00
CASH EXPENSE / ACRE								
SEED	14.40	11.00	11.25	14.40	33.00	-	34.00	-
FERTILIZER	31.87	6.60	15.60	46.43	74.40	15.60	22.00	24.80
LIME	-	-	-	-	-	-	-	-
CHEMICAL	22.00	17.00	1.60	22.00	1.60	-	1.40	-
SPECIAL LABOR	-	-	-	-	-	-	-	-
FUEL	12.57	8.29	7.82	16.14	12.56	7.10	12.56	6.25
REPAIRS AND MAINTENANCE	10.81	10.74	9.89	11.22	13.25	5.33	13.25	4.74
DRYING	-	-	-	-	-	-	-	-
IRRIGATION OPERATION	-	-	-	-	-	-	-	-
LAND TAXES	3.75	3.75	3.75	3.75	3.75	3.75	3.75	2.00
OTHER CASH EXPENSES	-	-	-	-	2.00	7.00	2.00	7.00
TOTAL CASH EXPENSE	95.41	57.38	49.92	113.94	140.56	38.78	88.96	44.79
OVERHEAD COST / ACRE								
INTEREST ON CASH EXPENSES	6.68	4.02	3.49	7.98	9.84	2.71	6.23	3.14
FAMILY OR HIRED LABOR	27.21	9.61	8.84	25.83	19.28	18.67	19.28	17.18
MACHINE OWNERSHIP COST	39.77	24.13	25.38	56.47	36.91	24.77	36.91	22.98
LAND CHARGE	26.25	26.25	26.25	26.25	26.25	26.25	26.25	14.00
INSURANCE OR RISK	5.70	4.62	3.56	6.63	3.12	3.94	3.12	3.50
OTHER OVERHEAD COSTS	-	-	-	79.80	-	14.00	-	12.25
TOTAL OVERHEAD COST	105.61	68.63	67.52	202.96	95.40	90.34	91.79	73.05
TOTAL COST	201.02	126.01	117.44	316.90	235.96	129.12	180.75	117.84
RETURN OVER TOTAL COST	26.98	58.94	25.06	-51.57	-110.96	28.38	-55.75	22.16
RETURN OVER CASH COST	132.59	127.57	92.58	151.40	-15.56	118.72	36.04	95.21
80 PCT. RETURN	86.99	90.58	64.08	98.33	-40.56	87.22	11.04	67.21
50 PCT. RETURN	18.59	35.09	21.33	18.73	-78.06	39.97	-26.46	25.21
PRODUCTION COST / UNIT								
110 PCT. YIELD GIVEN	2.28	4.24	3.56	21.66	-	33.54	-	30.61
100 PCT. YIELD GIVEN	2.51	4.67	3.91	23.83	-	36.89	-	33.67
90 PCT. YIELD GIVEN	2.79	5.19	4.35	26.47	-	40.99	-	37.41